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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,825	04/12/2001	Kazunori Kaneda	Q64042	1925

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EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 06/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/832,825

Applicant(s)

KANEDA, KAZUNORI

Examiner

Justin R. Fischer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2, 16 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2, 16 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 20, 2005 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuhara (JP 2000-17115, of record). Fukuhara is applied in the same manner as set forth in the Final Rejection mailed on January 21, 2005.

It is initially noted that the claim language does not require the composition layer be formed solely of rubber- this is particularly evident in view of the language "the rubber component" in step (b) of claim 2 (suggests that there is an additional component). It is suggested that the claim be amended to require --at least one squeegee rubber composition layer adjoining to the composite layer and consisting of a

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squeegee rubber composition, wherein said rubber composition comprises a natural rubber and/or a synthetic isoprene rubber in the amount of 50% by weight or more,--.

Fukuhara (Page 2, Paragraphs 6-9 and Page 4, Paragraph 13 of machine translation) is directed to a pneumatic tire construction in which a tire belt layer or squeegee rubber composition layer has the following composition: 0.1-0.3 parts by weight of a cobalt atom (in the form of a cobalt salt of an organic acid), 3-8 parts by weight of sulfur, and 0.5-20 parts by weight of hydrotalcite (carbonate of aluminum and magnesium). It is emphasized that the claims as currently drafted ("comprising a rubber composition") do not exclude the presence of reinforcing elements in the squeegee rubber composition layer and as such, the belt layer in the example of Fukuhara is seen to constitute a squeegee rubber composition layer. As to the adjoining composite layer, it is extremely well known that a carcass structure represents a fundamental component of modern day tires- one of ordinary skill in the art at the time of the invention would have recognized that the tire of Fukuhara includes a carcass structure that adjoins the above noted belt layer. Lastly, in regards to the type of tire, Fukuhara generally teaches a rubber composition for a cord reinforced tire component in order to obtain improved adhesion between said cord and the surrounding rubber. One of ordinary skill in the art at the time of the invention would have found it obvious to use the rubber composition of Fukuhara to make a wide variety of tires, including a truck tire, a bus tire, and an off-road tire, since the above noted benefits are desired in all tires. It is particularly noted that the claimed tire constructions are all recognized as containing steel cord reinforcement due to the larger stresses that are experienced, further suggesting that

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one of ordinary skill in the art at the time of the invention would have found it obvious to include the adhesion promoting rubber composition of Fukuhara in the claimed tire constructions.

Regarding the composition, Fukuhara states that the relevant rubber composition contains natural rubber and/or synthetic polyisoprene in an amount of 50 phr or more (Page 2, Paragraph 6).

As to claim 21, the original disclosure fails to provide support for the language "consisting essentially of"- absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to comprising (MPEP 2111.03).

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuhara as applied in claim 2 above and further in view of Kobayashi (US 5,965,640, of record), Nosu (US 5,464,896, of record), and the Admitted Prior Art (Page 5, Lines 13-15). The prior art is applied in the same manner as set forth in the Final Rejection mailed on January 21, 2005.

As previously stated, Fukuhara teaches a tire construction comprising a composite layer (carcass) and an adjacent squeegee rubber (belt) containing a hydrotalcite reinforcing material. The reference, however, is silent as to what specific type of hydrotalcite is used. In any event, one of ordinary skill in the art at the time of the invention would have found it obvious to use hydrotalcite in which the crystal water has been removed since such a material is commonly used in a wide variety of industries. For example, Kobayashi (Column 13, Lines 5-10) and Nosu (Column 2, Line

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42 – Column 3, Line 15) illustrate the extensive use of hydrotalcite in which the crystal water had been removed, it being particularly noted that Kobayashi is directed to the use of such a material in a rubber composition. Also, the Admitted Prior Art discloses that the claimed hydrotalcite was purchased from Kyowa Chemical Industry, Co., Ltd, further suggesting that hydrotalcite with crystal water removed was a well known material prior to the date of the claimed invention. As such, one of ordinary skill in the art at the time of the invention would have found it obvious to use hydrotalcite having no crystal water in the squeegee rubber composition of Hashimoto. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the use of such a hydrotalcite.

5. Claims 2 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (JP 08027333, of record) and further in view of Fukumoto (JP 61060302, of record) or, in the alternative, over Fukumoto and further in view of Mori. Mori and Fukumoto are applied in the same manner as set forth in the Final Rejection mailed on January 21, 2005.

Mori (Abstract and Paragraphs 13-15) is directed to a pneumatic tire construction in which the innerliner or squeegee rubber composition layer is formed of an isoprene copolymer (100 phr), hydrotalcite (0.1-30 phr), and a crosslinking agent, such as sulfur (1-30 phr). Furthermore, while not expressly disclosed by Mori, it is well recognized that a carcass structure represents a fundamental tire component that is adjacent the innerliner layer. Additionally, it is well recognized that steel reinforcing elements represent one of the most well-known and extensively used materials in the

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manufacture of a carcass structure due to their high strength properties. Thus, the reference is only devoid of a teaching in regards to the inclusion of a cobalt salt of an organic acid. However, it is known to include a cobalt salt of an organic acid in an innerliner composition in order to improve adhesion between the steel cords and the rubber that define the adjacent carcass structure, as shown for example by Fukumoto (Abstract). In this instance, Fukumoto suggests that the cobalt salt is included in an amount between 0.5-5 phr (fully encompasses claimed range of 0.1-0.3 in terms of cobalt atom). As such, one of ordinary skill in the art at the time of the invention would have found it obvious to include said cobalt salt in the innerliner of Mori. As to the type of tire, one of ordinary skill in the art at the time of the invention would have found it obvious to use the innerliner of Mori in a wide variety of tires, including a bus tire, a truck tire, and an off-road tire, since the above noted benefits are desired in all tires. Lastly, Fukumoto expressly depicts the adjoining relationship between the innerliner and the carcass structure.

Alternatively, Fukumoto is directed to a pneumatic tire construction in which an innerliner 5b or squeegee rubber layer adjoins a carcass structure 4 or composite layer formed of steel cords, wherein said innerliner is formed with between 2 and 8 phr of sulfur and between 0.5 and 5 phr of a cobalt salt of an organic acid (Abstract). Thus, the reference is only devoid of a teaching in regards to the inclusion of hydrotalcite. Mori, on the other hand, recognizes the use of hydrotalcite (0.1-30 phr) in an innerliner composition in order to obtain, among other things, high resistance to scorching. As such, one of ordinary skill in the art at the time of the invention would have found it

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obvious to include hydrotalcite in the innerliner composition of Fukumoto. In regards to the type of tire, one of ordinary skill in the art at the time of the invention would have found it obvious to form the tire of Fukumoto as a wide variety of tires, including a bus tire, a truck tire, and an off-road tire, since the above noted benefits are desired in all tires. In regards to the composition detailed by claim 19, multiple examples of Fukumoto include at least 50 phr of natural rubber (Table 1).

6. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over either one of (a) Mori in view of Fukumoto or (b) Fukumoto in view of Mori, as applied in claim 2 above, and further in view of Kobayashi, Nosu, and the Admitted Prior Art (Page 5, Lines 13-15). The prior art is applied in the same manner as set forth in the Final Rejection mailed on January 21, 2005.

Regarding the hydrotalcite, Mori is silent as to the specific type of hydrotalcite. In any event, one of ordinary skill in the art at the time of the invention would have found it obvious to use hydrotalcite in which the crystal water has been removed since such a material is commonly used in a wide variety of industries. For example, Kobayashi (Column 13, Lines 5-10) and Nosu (Column 2, Line 42 – Column 3, Line 15) illustrate the extensive use of hydrotalcite in which the crystal water had been removed, it being particularly noted that Kobayashi is directed to the use of such a material in a rubber composition. Also, the Admitted Prior Art discloses that the claimed hydrotalcite was purchased from Kyowa Chemical Industry, Co., Ltd, further suggesting that hydrotalcite with crystal water removed was a well known material prior to the date of the claimed invention. As such, one of ordinary skill in the art at the time of the invention would

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have found it obvious to use hydrotalcite having no crystal water in the squeegee rubber composition of Hashimoto. Lastly, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the use of such a hydrotalcite.

Response to Arguments

7. Applicant's arguments filed May 20, 2005 have been fully considered but they are not persuasive. Applicant primarily contends that the amended language ("consisting of" and "consisting essentially of") overcomes the existing rejections. First, in regards to the rejection in view of Fukumoto and as set forth above, the language does not require the layer be formed solely of rubber. In particular, the claim defines "the rubber component", which suggests that an additional component may be present. It is suggested that applicant adopt the aforementioned language to overcome this rejection. Second, with respect to the rejections in view of Mori and/or Fukumoto, the relevant rubber layer in each instance is an innerliner rubber layer, which is formed solely of a rubber composition, and thus is seen to constitute a rubber layer consisting of a squeegee rubber composition. It is further noted that the innerliner rubber layers of Mori and Fukumoto are comprised of natural rubber (in the case of Fukumoto) and/or synthetic isoprene rubber (in the case of Mori) in the amount of 50% by weight or more. Thus, the proposed claim language is not seen to overcome these rejections.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Justin Fischer

June 1, 2005